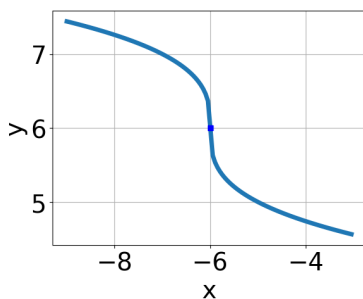1. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{3x - 8} - \sqrt{8x - 9} = 0$$
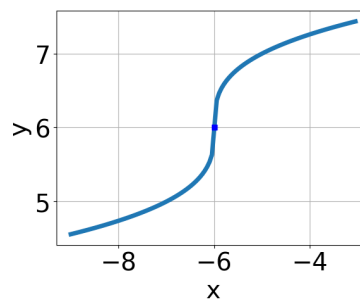
A. All solutions lead to invalid or complex values in the equation.

B. $x \in [-5.7, -1.7]$

C. $x_1 \in [-2, 1]$ and $x_2 \in [0.67, 4.67]$

D. $x_1 \in [0.3, 3.6]$ and $x_2 \in [0.67, 4.67]$

E. $x \in [-2, 1]$

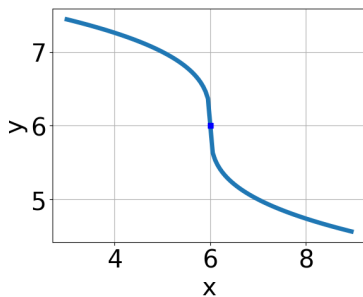2. Choose the graph of the equation below.
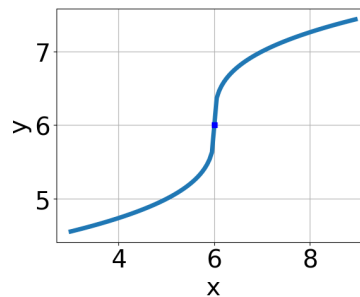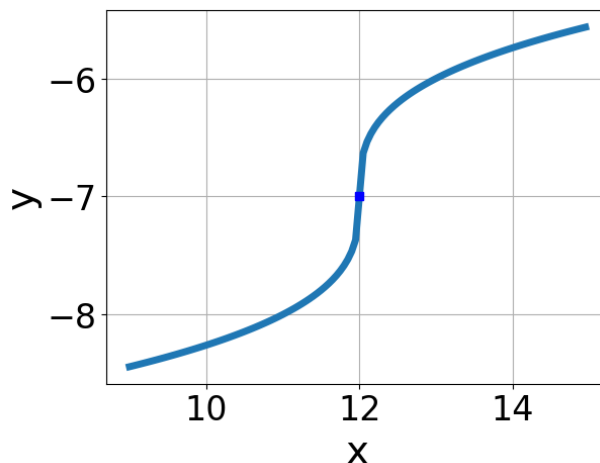
$$f(x) = \sqrt[3]{x + 6} + 6$$

A.

C.

B.

D.

E. None of the above.

3. Choose the equation of the function graphed below.

A. $f(x) = \sqrt[3]{x + 12} - 7$

B. $f(x) = \sqrt[3]{x - 12} - 7$

C. $f(x) = -\sqrt[3]{x + 12} - 7$

D. $f(x) = -\sqrt[3]{x - 12} - 7$

E. None of the above

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4. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{21x^2 + 32} - \sqrt{-52x} = 0$$

A. $x_1 \in [0.9, 1.23]$ and $x_2 \in [0, 1.9]$

B. $x \in [-1.34, -1.22]$

C. All solutions lead to invalid or complex values in the equation.

D. $x_1 \in [-1.34, -1.22]$ and $x_2 \in [-2.7, -0.4]$

E. $x \in [-1.3, -0.99]$

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5. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-4x - 7} - \sqrt{7x - 4} = 0$$

A. $x \in [-0.88, -0.19]$

B. $x_1 \in [-2.12, -1.61]$ and $x_2 \in [0.4, 2]$

C. $x_1 \in [-2.12, -1.61]$ and $x_2 \in [-1.8, 0]$

D. All solutions lead to invalid or complex values in the equation.

E. $x \in [-1.08, -0.42]$

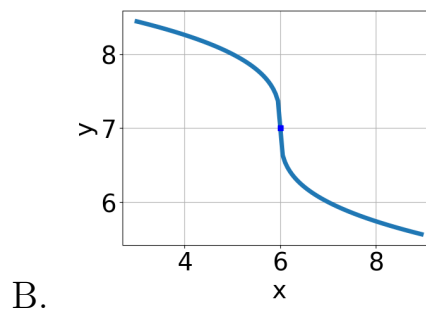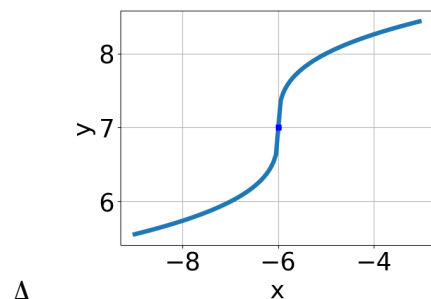---
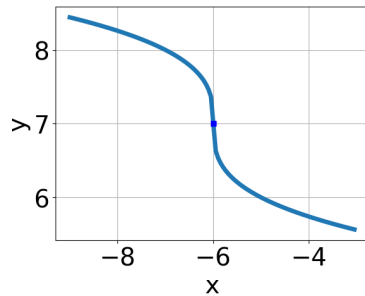
6. What is the domain of the function below?

$$f(x) = \sqrt[6]{7x - 9}$$

A. $[a, \infty)$, where $a \in [1.19, 1.4]$

B. $(-\infty, \infty)$

C. $[a, \infty)$, where $a \in [0.44, 1.13]$

D. $(-\infty, a]$, where $a \in [1.02, 1.96]$
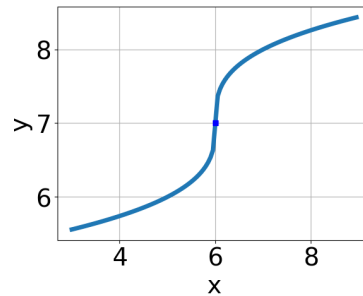
E. $(-\infty, a]$, where $a \in [0.33, 1]$

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7. Choose the graph of the equation below.

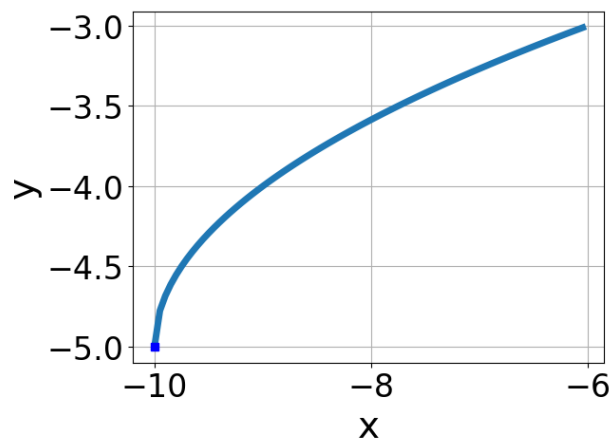$$f(x) = -\sqrt[3]{x - 6} + 7$$

A.

B.

C.

D.

E. None of the above.

8. Choose the equation of the function graphed below.

A. $f(x) = -\sqrt[3]{x + 10} - 5$

B. $f(x) = \sqrt[3]{x - 10} - 5$

C. $f(x) = -\sqrt[3]{x - 10} - 5$

D. $f(x) = \sqrt[3]{x + 10} - 5$

E. None of the above

9. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{21x^2 - 20} - \sqrt{13x} = 0$$

A. $x \in [1.14, 1.36]$

B. $x \in [-1.67, -0.1]$

C. $x_1 \in [-1.67, -0.1]$ and $x_2 \in [-3.67, 4.33]$

D. All solutions lead to invalid or complex values in the equation.

E. $x_1 \in [0.36, 1.29]$ and $x_2 \in [-3.67, 4.33]$

10. What is the domain of the function below?

$$f(x) = \sqrt[6]{8x - 4}$$

A. $[a, \infty)$, where $a \in [1.32, 2.07]$

B. $(-\infty, \infty)$

C. $(-\infty, a]$, where $a \in [1.5, 3.9]$

D. $[a, \infty)$, where $a \in [-0.56, 0.57]$

E. $(-\infty, a]$, where $a \in [-0.1, 0.6]$